ABSTRACT OF THE INVENTION

Variable venturis for use in jet propulsion systems of watercraft include discharge openings with selectively variable discharge areas that enable a venturi controller to selectively maximize top speed, acceleration, and/or fuel efficiency. The variable venturi may include a plurality of circumferentially-spaced, squeezable, flexible sections that selectively move radially inwardly to alter the discharge area. Alternatively, the variable venturi may include a flexible venturi with a variably-shaped flexible discharge opening. Alternatively, the variable venturi may include a main rear discharge opening and a plurality of additional discharge openings with selectively openable valves, whereby selective opening of the valves effectively increases the discharge area. Alternatively, the variable venturi may have a movable end flap that selectively varies the discharge area.